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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,260	03/26/2001	Nicholas J. Schork	G-085US04CON	9223
23557 7590 12/18/2007 SALIWANCHIK LLOYD & SALIWANCHIK A PROFESSIONAL ASSOCIATION PO BOX 142950 GAINESVILLE, FL 32614-2950			EXAMINER LIN, JERRY	
			ART UNIT 1631	PAPER NUMBER
			MAIL DATE 12/18/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/818,260		SCHORK ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jerry Lin		1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,7,40,41 and 46-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,40,41 and 46-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 19, 2007 has been entered.

### ***Status of the Claims***

Claims 1, 4, 7, 40, 41, and 46-50 are under examination.

Claims 2-3, 5-6, 8-39, and 42-45 are cancelled.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1, 4, 7, 40, 41, and 46-50 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Instant claims 1, 40, 41 and 50 are drawn to a process involving the judicial exception of a computational algorithm. Claims drawn to a judicial exception is non-statutory unless the claims include a practical application of that judicial exception as evidenced by a physical transformation of the claimed invention, or if the claimed

invention produces a useful, tangible and concrete final result. In the instant claims, there is no physical transformation by the claimed invention, thus the Examiner must determine if the instant claims produce a useful, tangible, and concrete final result. See MPEP 2106.

The instant claims do not produce a useful, concrete, tangible final result. A tangible requirement requires that the claim must set forth a practical application of the mathematical algorithm to produce a real-world result. The instant claims are drawn to a method of determining the statistical significance of a difference between haplotype frequency profiles. The entire process may take place within a computer without any communication to the outside world. The final step in the claims does not indicate that a result has necessarily been produced. Thus the instant claims do not require that a result must be produced. Since there is no final result in the claims, the instant claims do not include a useful, concrete, and tangible final result. This rejection could be overcome by amendment of the claims to identify/recite a concrete result and to recite that the result is outputted to a display or to a user or outputted in a user readable format. However, applicant is reminded that any amendment ~~must~~ be fully supported and enabled by the originally filed disclosure.

Instant claims 7, 48, and 49 are to drawn programmed storage devices, which include propagated data signals, which are non-statutory *per se*. According to applicants, programmed storage devices are any computer readable media on which a program readable by a computer has been stored (See page 10 of the Remarks filed April 30, 2007). The Examiner notes that the applicants have defined computer

readable media to include propagated data signals (page 16 of the Specification).

However, according the MPEP §2106.01, data signals are non-statutory *per se*.

Instant claims 4, 46, and 47 are drawn a device that encompasses to a judicial exception that requires a practical application. Including electronic computers or input devices in the claims does not prevent this requirement. As stated above, the instant claims do not have a practical application.

#### Response to Arguments

4. The Applicants have responded to this rejection, in regards to claims 1, 40, 41, and 50, by citing Patent Office guidelines that, "If a claim requires acts to be performed to create data that will be used in a process representing a practical application of one or more mathematical operations, those acts must be treated as further limiting the claim beyond the mathematical operation(s) *per se* . . . ." The applicants then state steps (a) and (b) of claims 1, 40, 41, and 50 require one to create or gather data and this meets the statutory requirements of 35 U.S.C. §101. However, in the quotation cited the Applicants, the claimed process must still be drawn to a practical application, regardless of the presence or absence of creating or gathering data steps. According to the MPEP §2106 (IV) (C) (2), a claimed process may demonstrate a practical application by either a physical transformation or a useful, tangible, and concrete final result. As stated above, the instant claims do not have a physical transformation or a useful, tangible, and concrete final result. Thus the instant claims do not have a practical application and are not statutory.

The Examiner notes that the instant claims are drawn to determining a statistical significance of the difference. In order to comply with 35 U.S.C. §101, that step must have a final result must useful, tangible and concrete. In order to fulfill the tangibility requirement, the Examiner suggests adding an additional step where the statistical significance of the difference is outputted to a display or to a user or outputted in a user readable format (support for this step may be found on Figure 15 of the specification).

Applicants also state, in regards to claims 4, 7, 46, 47, 48, 49, that the claims comprise electronically connected computers or programmed storage devices. In regards to claims 7, 48, and 49, the applicants state that programmed storage devices are any computer readable media on which a program readable by a computer has been stored. The Examiner notes that the applicants have defined computer readable media to include propagated data signals (page 16 of the Specification). However, according the MPEP §2106.01, data signals are non-statutory *per se*. Storing data on a non-statutory "device" does not render either the device itself nor the data stored thereon statutory, as set forth in *In re Nuijten*, 84 USPQ2d 1495 (Fed. Cir. 2007).

In regards to claims 4, 46, 47, the Applicants point to electronically connected computers. First the examiner notes that in the last part of each claim, the computer executes software or programs stored on the programmed storage devices. However, the instant claims do not indicate what programs are stored on the programmed storage devices. Thus the computer may execute any program and is not required to execute the instructions listed in the claim. Thus, the computer has not gained any additional function from the presence of the instructions. Secondly, the instant claims are drawn

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to a judicial exception that requires a practical application to be statutory. As stated above, the instant claims do not have such a practical application. Thus, the instant claims are not statutory.

### ***Conclusion***

No claim is allowed.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561.

The examiner can normally be reached on 10:00-6:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JL/

/Marjorie A. Moran/  
SPE, AU 1631  
12/14/2007